

Association of Patient-Reported Outcomes and Physical Function with Patient Satisfaction after Total Joint Arthroplasty

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INTRODUCTION: Given the emphasis of value-based care, success in total hip and knee arthroplasty (THA and TKA) has become linked to patient reported outcomes (PROs). Our goal was to analyze PROs and daily physical activity from a wearable, patient-engagement application to analyze their association with patient satisfaction after THA and TKA.

METHODS: Prospective data from a multicenter study was gathered and analyzed. Physical activity was obtained from wearable technology and consisted of patients' ability to climb stairs, daily steps taken, gait speed, and gait asymmetry. PROs obtained included the Hip disability and Osteoarthritis Score for Joint Replacement (HOOS JR) and EuroQol-5 dimension (EQ5D). PROs and physical activity levels were recorded at one-year postoperative. Satisfaction was measured by Knee Society Scores (KSS) at one and three months and defined as a KSS \geq 30. Independent t-tests were utilized to assess for differences in PROs and physical function.

RESULTS: A total of 4,127 patients were included (2,201 TKAs, 1,926 THAs). At one-month postoperative, dissatisfied TKA patients had increased gait asymmetry (0.08 vs. 0.04, $p = 0.0002$). Otherwise, physical function did not significantly differ for those undergoing TKA or THA regardless of joint satisfaction. Regression analysis of physical activity and KSS scores did not reach significance. For TKA patients, EQ5D and HOOS JR were significantly lower in dissatisfied patients both at one- and three-months postoperative. For THA patients, EQ5-D and HOOS JR were significantly lower in dissatisfied patients at three months postoperative. Patients with anxiety had significantly lower PROs regardless of joint satisfaction, despite having similar physical activity levels.

DISCUSSION AND CONCLUSION:

Patient satisfaction has limited correlation with objective measures of physical function. PROs at one year postoperative appear to correlate with patient satisfaction within three month postoperatively, but patients with anxiety have significantly lower PROs regardless of joint satisfaction.